

**Geometry      Date\_\_\_\_\_      4.3 & 4 Assignment**  
**Proving triangles congruent: ASA & AAS (pp 212-5 & 20-2 )**

1. What is your name?

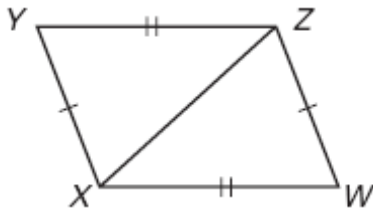
For each triangle, name the included angle between the pair of sides given.

2.  $\triangle RIT$  :  $\overline{RT}$  &  $\overline{TI}$

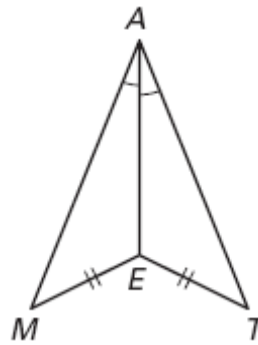
3.  $\triangle WBF$  :  $\overline{WB}$  &  $\overline{FB}$

Decide whether enough information is given to prove that the triangles are congruent. If there is enough information, state the congruence postulate you would use.

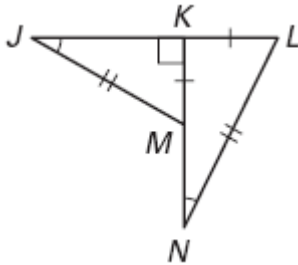
4.  $\triangle XYZ$ ,  $\triangle ZWX$



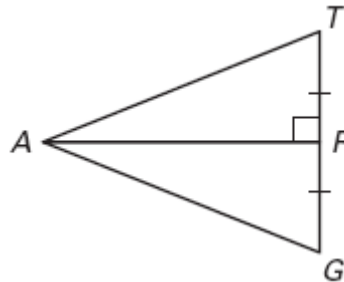
5.  $\triangle MAE$ ,  $\triangle TAE$



6.  $\triangle JKM$ ,  $\triangle NKL$



7.  $\triangle TRA$ ,  $\triangle GRA$



State the third congruence the must be given to prove that  $\triangle DEF \cong \triangle MNO$  , using the indicated postulate or theorem.

Given:  $\overline{EF} \cong \overline{NO}$

8.  $\angle N \cong \angle E$

Method: ASA Congruence Postulate

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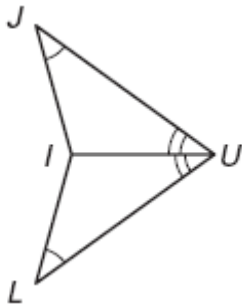
Given:  $\angle D \cong \angle M$

10.  $\angle F \cong \angle O$

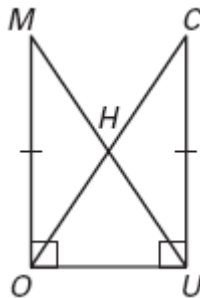
Method: ASA Congruence Postulate

**Is it possible to prove that the triangles are congruent? If so, state the postulate or theorem you would use. Explain your reasoning.**

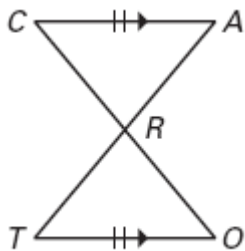
11.



12.



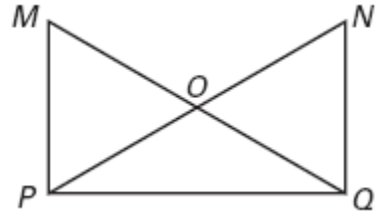
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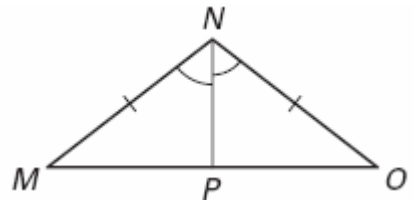
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**Write a two-column or a paragraph proof.**

- 14. Given:**  $\overline{MQ} \cong \overline{NP}$   
 $\overline{MP} \cong \overline{NQ}$   
**Prove:**  $\triangle MPQ \cong \triangle NQP$



- 15. Given:**  $\overline{PN}$  bisects  $\angle MNO$   
 $\overline{MN} \cong \overline{ON}$   
**Prove:**  $\triangle MNP \cong \triangle ONP$



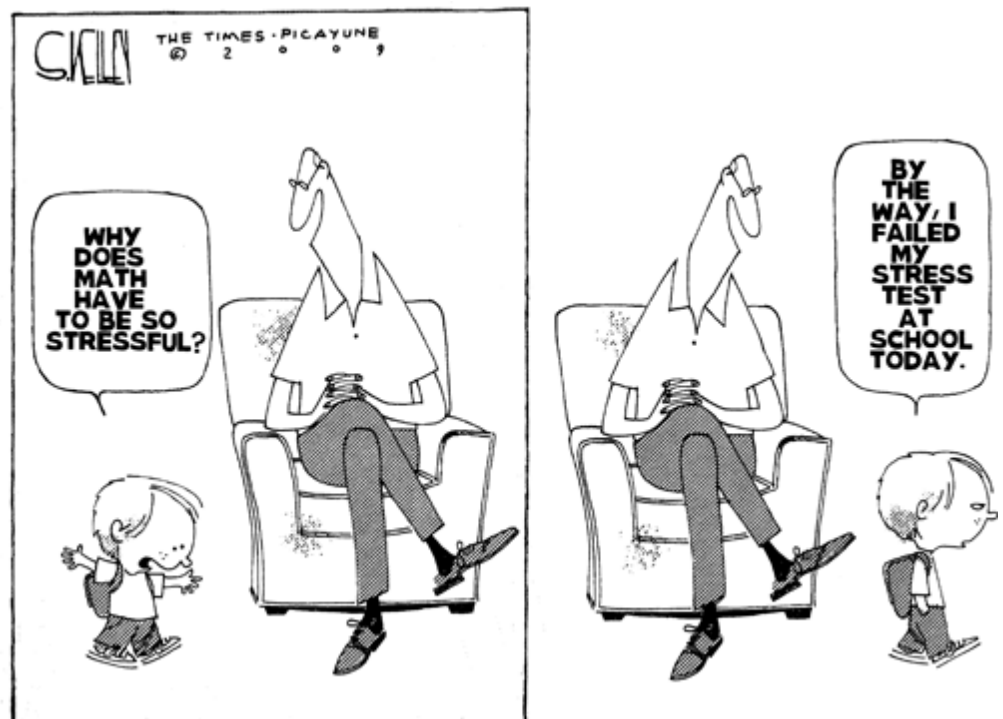
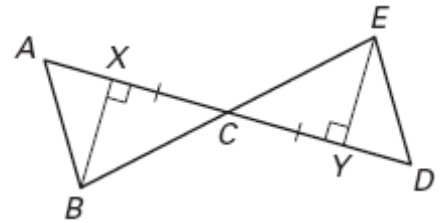
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Given: C is the midpoint of  $\overline{XY}$ .

$$\overline{BX} \perp \overline{AC}$$

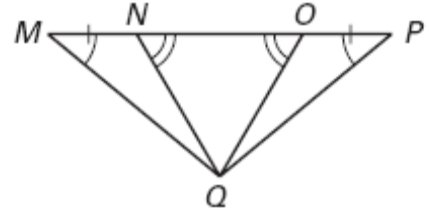
16.  $\overline{EY} \perp \overline{CD}$

Prove:  $\triangle CXB \cong \triangle CYE$



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- Given:  $\angle M \cong \angle P$   
 $\angle MOQ \cong \angle PNQ$   
17.  $\overline{MN} \cong \overline{PO}$   
Prove:  $\triangle MOQ \cong \triangle PNQ$



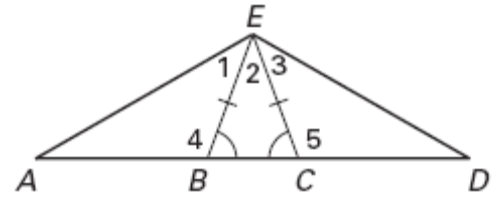
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Given:  $\angle EBC \cong \angle ECB$

$$\overline{EB} \cong \overline{EC}$$

18.  $\overline{BE}$  bisects  $\angle AEC$ .  
 $\overline{CE}$  bisects  $\angle DEB$ .

Prove:  $\triangle ABE \cong \triangle DCE$



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**Review.**

**Find the coordinates of the other endpoint of a segment with the given endpoint and midpoint  $M$ .** (*Chapter 1 Section 5*).

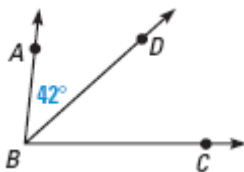
**19.**  $B(5, 7)$  &  $M(-1, 0)$

**20.**  $C(0, 9)$  &  $M(6, -2)$

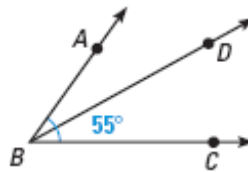
**21.**  $F(8, -5)$  &  $M(-1, -3)$

**$\overline{BD}$  is the angle bisector of  $\angle ABC$ . Find the two other angle measures not given in the diagram.** (*Chapter 1 Section 5*)

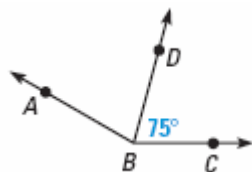
**22.**



**23.**



**24.**



**25.** You are making a brace for a barn door. The top and bottom pieces are parallel. To make the middle piece, you cut off the



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ends of a board at the same angle. What postulate or theorem guarantees that the cuts are parallel?

